

### REMARKS

This amendment is being filed in response to the Office Action having a mailing date of March 7, 2006. New claim 27 is added. Claims 4 and 14 are amended. No new matter has been added. With this amendment, claims 1-27 are pending in the application.

#### I. Discussion of the Claims Rejected under 35 U.S.C. § 102(e)

In the Office Action, the Examiner rejected claims 1-26 as being anticipated by several issued US patents and several active US applications: US 6,982,111, US 6,996,055, US 7,002,887, and US 2003/0190551, US 2003/0202452, US 2003/0223351, US 2003/0231577, and US 2004/0004932. For purposes of analysis under 35 U.S.C. § 102(e), when considering all of the cited references, the earliest possible date to consider is the filing date of issued patent, US 6,982,111, and which date is December 6, 2002

Under 37 CFR 1.131, “the applicant may submit an appropriate oath or declaration to establish invention of the subject matter of the rejected claim prior to the effective date of the reference.” Accordingly, the applicant submits a Certified English Translation of the Priority Document, Japanese Patent Application No. 2002-196335, filed on July 4, 2002 in Japan. The applicant suggests that the certified translation forms the basis and perfection of a priority claim for the instant application. Therefore, since all of the cited references have a relevant date later than the priority date to which the instant application is entitled, the cited references do not qualify as prior art, and the applicant respectfully requests that the Examiner withdraw the 37 U.S.C. § 102(e) rejection.

#### II. Discussion of the Claims Rejected under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 1, 14-20, 23, 25, and 26 as being unpatentable under 35 U.S.C. 103(a) in view of US 6,033,752 (Suzuki). The Examiner asserted that the reference discloses a recording medium comprising a recording layer formed of two sublayers which may be formed of the claimed materials. The Examiner recognized that the reference does not disclose a plurality of recording layers, but she cited the applicant’s admission

that it is well known in the art to utilize multiple recording layers depending on what type of recording is preferred, i.e. WORM, RW, etc.

Dependent claims 2-13, 21, 22, and 24 were not called out by the Examiner and are presumed allowable if the rejections for the respective base claims are overcome, for which the applicant thanks the Examiner. New claim 27 is believed patentable over the prior art since it incorporates the features of claims 2 and 3, which were not rejected on the prior art.

A. Independent claim 1

a. The material composition of the recording layers

Independent claim 1 is allowable because its limitations are not taught, disclosed, or suggested by the Suzuki reference.

For example, claim 1 discloses “a first recording film ... and a second recording film located in the vicinity of the first recording film,” and Suzuki discloses an optical recording medium including a first recording layer 3 and a second recording layer 4 in close proximity to each other. Additionally, claim 1 discloses “a first recording film containing an element selected from a group consisting of Si, Ge, Sn, Mg, In, Zn, Bi and Al,” and Suzuki discloses “[t]he first recording layer 3 is constructed of a metal which has a low melting point and a high reflectance” (col. 6, lines 1-2), and In, Sn, Pb and Zn are examples of metals suitable for constructing the first recording layer 3 (col. 6, lines 9-10).

Beyond these initial similarities, however, claim 1 and Suzuki are clearly different. Claim 1 recites “a second recording film ... containing an element selected from a group consisting of Cu, Al, Zn, Ti and Ag.” In contrast, Suzuki first provides that “[t]he second recording layer 4 is constructed of a material which will, upon mixing or reaction with the first recording layer 3, form an alloy with a low reflectance” (col. 6, lines 59-61), and then adds that if the first recording layer 3 contains In as a main constituent, it is preferable for the second recording layer 4 to be constructed of a material which incorporates at least one element from either group 5B or group 6B of the periodic table (col. 6, lines 61-67).

It follows then, that in Suzuki’s device, when the second recording layer 4 is constructed “*entirely of one element*” from periodic table group 5B or 6B, then As, Se, Sb, Te

and Bi are preferable (col. 7, lines 5-8). When the second recording layer 4 is constructed from an “*alloy*” comprising one or more periodic table group 5B or 6B elements, then examples of preferable additional elements which can be incorporated into the alloy include Ag, B, C, Cu, Ge, In, Si, and ZnS (col. 7, lines 10-14). In contrast to claim 1 of the present application, Suzuki teaches that the second recording layer 4 may contain Ag or Cu, but if so, then Suzuki’s second recording layer 4 will be formed as an alloy of Ag or Cu along with one or more periodic table group 5B or 6B elements, but does not contain Ag or Cu as a primary component.

Accordingly, even though the composition of the first recording film of Claim 1 and the composition of the first recording layer 3 of Suzuki both may contain In, Sn or Zn, the composition of the second recording film of Claim 1 is completely different from that of the second recording layer of Suzuki. Claim 1 recites “a second recording film ... containing an element selected from a group consisting of Cu, Al, Zn, Ti and Ag as a primary component,” whereas Suzuki teaches an alloy comprising an element from periodic table group 5B or 6B along with Cu or Ag.

b. The transmittance of the recording layers

Claim 1 in the present application is further distinguished from Suzuki based on the amount of light that passes through the recording layers. The Suzuki reference does not teach, disclose, or suggest the importance of transmittance, whereas transmittance is impliedly important in claim 1 where the “plurality of recording layers” is disclosed.

The Examiner has acknowledged that Suzuki does not disclose a plurality of recording layers, and the Examiner has credited the applicant with an admission that it is well known in the art to utilize multiple recording layers depending on what type of recording is preferred. The applicant acknowledges that an optical recording medium may include a plurality of recording layers.

In any relevant optical recording media, a region of the recording layer where a recording mark is formed and a blank region thereof where no recording mark is formed are distinguished from each other based on different reflection coefficients between the regions. Therefore, the different reflection coefficients of the recording layers are important for both

optical recording medium having single recording layers and optical recording medium having multiple recording layers. On the other hand, regarding light transmittance, the amount of light that passes through a recording layer is only important in an optical recording medium having a plurality of recording layers; it is *not* important in an optical recording medium having only a single recording layer. Thus, this claimed feature is not found in the prior art.

Claim 1 discloses “at least one recording layer other than a farthest recording layer from the light transmission layer among the plurality of recording layers.” Suzuki does not teach, disclose, or suggest to an ordinary person skilled in the art the importance of the difference between light measured through a recorded region and light measured through a blank region and that it is preferable to constitute a recording layer other than a farthest recording layer from the light incidence plane by the elements disclosed in claim 1.

Because Suzuki does not teach, disclose, or suggest material composition of the recording layers of claim 1, and because Suzuki does not teach, disclose, or suggest transmittance of the recording layers of claim 1, it is clear that claim 1 in the present application is not obvious in light of Suzuki, and claim 1 is allowable.

B. Independent claim 14 and dependent claims 15-19

Independent claim 14 and dependent claims 15 – 19 are allowable because the limitations regarding transmittance of the plurality of recording layers are not taught, disclosed, or suggested by the Suzuki reference. The applicant notes that the previous remarks under the section “Independent claim 1,” subsection “The transmittance of the recording layers” regarding transmittance of the plurality of recording layers are relevant and applicable to claims 14 - 19.

Independent claim 14 in the present application is further distinguished from Suzuki. Unlike the claims in the present application, Suzuki does not teach, disclose, or suggest to an ordinary person skilled in the art that “by projecting a laser beam via the light transmission layer onto the plurality of recording layers, at least one recording layer other than a farthest recording layer from the light transmission layer” then the “difference in light transmittances between a region of a record mark formed by the irradiation of the laser beam and blank regions is equal to or lower than 4 %.”

Further, Suzuki discusses the wavelength of the laser light source, but not in the manner of the present application. Suzuki's indications of wavelength are limited to its optical properties between varying organic colors (col. 1, lines 50-60), its relation to the depth of a guide track in the medium (col. 4, lines 57-67), and the color of the protective layer (col. 8, lines 62-66). In contrast, the wavelength of the laser in the present application relates to "recording data in the plurality of recording layers and reproducing data recorded in the plurality of recording layers by projecting a laser beam via the light transmission layer onto the plurality of recording layers, at least one recording layer other than a farthest recording layer from the light transmission layer among the plurality of recording layers."

Further, unlike dependent claims 15 – 19, Suzuki does not teach, disclose, or suggest a "light transmission layer [that] has a thickness of 30  $\mu\text{m}$  to 200  $\mu\text{m}$ ," a "laser beam having a wavelength of 350 nm to 450 nm," and employment of "an objective lens and a laser beam whose numerical aperture NA and wavelength  $\lambda$  satisfy  $\lambda/\text{NA} \leq 640 \text{ nm}$ , and projecting the laser beam thereonto via the objective lens" during the relevant times of recording or reproducing data such that the "difference in light transmittances between a region of a record mark formed by the irradiation of the laser beam and blank regions is equal to or lower than 4 %."

Because Suzuki does not teach, disclose, or suggest transmittance of the recording layers of claims 14 – 19, it follows then that claims 14 – 19 in the present application are not obvious in light of Suzuki and are allowable.

C. Independent claim 20 and dependent claims 23, 25, and 26

In light of remarks previously cast, the applicant asserts that Suzuki does not teach, disclose, or suggest material composition of the recording layers of claims 20, 23, 25, and 26 and Suzuki does not teach, disclose, or suggest transmittance of the recording layers of claims 20, 23, 25, and 26. It follows then that claims 20, 23, 25, and 26 in the present application are not obvious in light of Suzuki, and are allowable, and the applicant respectfully requests that the Examiner withdraw the 35 U.S.C. 103 rejection.

III. Discussion of the Claims Rejected Under Double Patenting

In the Office Action, the Examiner rejected claims 1-26 under the judicially created doctrine of nonstatutory obviousness-type double patenting. Claims against issued patents have been rejected outright; claims against copending applications have been rejected provisionally because the claims in copending applications have not in fact been patented. Although none of the conflicting claims are identical to those in the present application, the Examiner asserts that claims 1-26 in the present application are not patentably distinct from the claims in the named references. Additionally, the Examiner asserts that:

Claims 1-26 are unpatentable over claims 1-7 of U.S. Patent No. 6,982,111 because they disclose the same recording material comprising two sublayers which mix when recorded. The Examiner specifically referenced Example 2 of U.S. 6,982,111.

Claims 1-26 are unpatentable over claims 1-40 of U.S. Patent No. 6,996,0555 because \*\*\*.

Claims 1-26 are unpatentable over claims 1-16 of U.S. Patent No. 7,002,887 because they disclose the same recording material comprising two sublayers which mix when recorded.

Claims 1-26 are unpatentable over claims 1-43 of copending Application No. 10/406,109 because they disclose the same recording material comprising two sublayers which mix when recorded.

Claims 1-26 are unpatentable over claims 1-36 of copending Application No. 10/423,686 because they disclose the same recording material comprising two sublayers which mix when recorded.

Claims 1-26 are unpatentable over claims 1-36 of copending Application No. 10/444,172 because they disclose the same recording material comprising two sublayers which mix when recorded.

Claims 1-26 are unpatentable over claims 1-40 of copending Application No. 10/425,571 because they disclose the same recording material comprising two sublayers which mix when recorded.

Claims 1-26 are unpatentable over claim 2 of copending Application No. 10/612,615 because it discloses the same recording material comprising two sublayers which mix when recorded.

A. Request for reconsideration regarding double patenting

As noted by the Examiner, a terminal disclaimer may be used to overcome a rejection based on a non-statutory double patenting ground provided that the conflicting patents are shown to be commonly owned. Similarly, as noted by the Examiner, a terminal disclaimer may be used to overcome a provisional rejection based on a non-statutory double patenting ground provided that the conflicting applications are shown to be commonly owned.

Applicant files herewith a terminal disclaimer to overcome this rejection.

IV. Discussion of Amended and New Claims

A. Amended claims 4 and 14

Claims 4 and 14 have been amended only to correct typographical errors.

B. New independent claim 27

In the Office Action, the Examiner rejected claim 1 under 35 U.S.C. § 103. Dependent claims 2 and 3 were not objected to by the Examiner, and it is understood by the applicant that claims 2 and 3 are generally allowable. New claim 27 contains recitations generally along the lines of those contained in claims 1, 2, and 3 combined, so allowance of claim 27 is requested.

V. First and Third Supplemental Information Disclosure Statements

On January 21, 2005, a *first* Supplemental Information Disclosure Statement (IDS) was filed, along with a form PTO-1449, that had sixty-four (64) references listed thereon and the appropriate certification. The IDS also disclosed nine (9) copending related applications

by the same assignee. The disclosure statement for the first IDS was titled "SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT." The 64 cited references were:

1.	PTO-1449	AA	US 3,959,799	05/25/76	Gambino et al.
2.	PTO-1449	AB	US 4,357,616	11/02/82	Terao et al.
3.	PTO-1449	AC	US 4,477,819	10/16/84	Lee et al.
4.	PTO-1449	AD	US 4,587,533	05/06/86	Nakane et al.
5.	PTO-1449	AE	US 4,647,947	03/03/87	Takeoka
6.	PTO-1449	AF	US 4,670,345	06/02/87	Morimoto
7.	PTO-1449	AG	US 4,771,413	09/13/88	Nago
8.	PTO-1449	AH	US 4,772,897	09/20/88	Ohkawa
9.	PTO-1449	AI	US 5,208,088	05/04/93	Tominaga et al.
10.	PTO-1449	AJ	US 5,297,132	03/22/94	Takano et al.
11.	PTO-1449	AK	57-022095	02/04/82	JP
12.	PTO-1449	AL	57-027788	02/15/82	JP
13.	PTO-1449	AM	58-220794	12/22/83	JP
14.	PTO-1449	AN	59-225992	12/19/84	JP
15.	PTO-1449	AO	60-160036	08/21/85	JP
16.	PTO-1449	AP	0 068 801 B1	09/10/86	EP
17.	PTO-1449	AQ	"Other"	02/2003	Inoue, H., et al
18.	PTO-1449	AR	"Other"	01/01/1984	Yoshii, K., et al.
19.	PTO-1449	BA	US 5,401,330	03/28/95	Saito et al.
20.	PTO-1449	BB	US 5,458,941	10/17/95	Hintz
21.	PTO-1449	BC	US 5,656,370	08/12/97	Murakami et al.
22.	PTO-1449	BD	US 5,912,104	06/15/99	Hirotsune et al.
23.	PTO-1449	BE	US 6,033,752	03/07/00	Suzuki et al.

24.	PTO-1449	BF	US 6,096,399	08/01/00	Yoshinari et al.
25.	PTO-1449	BG	US 6,143,469	11/07/00	Ohta et al.
26.	PTO-1449	BH	US 6,210,860	04/03/01	Fukano et al.
27.	PTO-1449	BI	US 6,254,966	07/03/01	Kondo
28.	PTO-1449	BJ	US 6,551,679	04/22/03	Kuroda et al.
29.	PTO-1449	BK	62-204442	09/09/87	JP
30.	PTO-1449	BL	62-245545	10/26/87	JP
31.	PTO-1449	BM	01-158633	06/21/89	JP
32.	PTO-1449	BN	2-152029	06/12/90	JP
33.	PTO-1449	BO	0 474 311 A1	03/11/92	EP
34.	PTO-1449	BP	4-86283	03/18/92	JP
35.	PTO-1449	BQ	4-226785	08/17/92	JP
36.	PTO-1449	BR	6-171236	06/21/94	JP
37.	PTO-1449	CA	US 6,608,799	08/19/03	Hozumi
38.	PTO-1449	CB	US 2001/0012257	08/09/01	Suzuki et al.
39.	PTO-1449	CC	US 2001/0021160	09/13/01	Shuy et al.
40.	PTO-1449	CD	US 2001/0044002	11/22/01	Shingai et al.
41.	PTO-1449	CE	US 2002/0076646	06/20/02	Zhou et al.
42.	PTO-1449	CF	US 2003/0190551	10/09/03	Aoshima et al.
43.	PTO-1449	CG	US 2003/0202452	10/30/03	Mishima et al.
44.	PTO-1449	CH	US 2004/0052194	03/18/04	Inoue et al.
45.	PTO-1449	CI	US 2004/0157158	08/12/04	Kakiuchi et al.
46.	PTO-1449	CJ	0 350 078 B1	03/09/94	EP
47.	PTO-1449	CK	0 822 543 A1	02/04/98	EP
48.	PTO-1449	CL	10-76755	03/24/98	JP
49.	PTO-1449	CM	0 978 831 A2	02/09/00	EPE

50.	PTO-1449	CN	2000-187884	07/04/00	JP
51.	PTO-1449	CO	1 028 421 A2	08/16/00	EP
52.	PTO-1449	CP	1 154 413 A2	11/14/01	EP
53.	PTO-1449	CQ	WO 01/93256 A1	12/06/01	WIPO
54.	PTO-1449	CR	1330368 A	01/09/02	CN
55.	PTO-1449	DG	1 172 811 A2	01/16/02	EP
56.	PTO-1449	DH	1 178 472 A2	02/06/02	EP
57.	PTO-1449	DI	2002-104317	04/10/02	JP
58.	PTO-1449	DJ	2002-120458	04/23/02	JP
59.	PTO-1449	DK	2002-269808	09/20/02	JP
60.	PTO-1449	DL	0 947 351 B1	09/25/02	EP
61.	PTO-1449	DM	2003-54135	02/26/03	JP
62.	PTO-1449	DN	2003-85778	03/20/03	JP
63.	PTO-1449	DO	1 351 230 A2	10/08/03	EP
64.	PTO-1449	DP	1 139 340 B1	06/16/04	EP

The 9 cited copending related applications by the same assignee were:

1.	10/406,109	04/02/03
2.	10/423,686	04/25/03
3.	10/425,571	04/27/03
4.	10/444,172	05/23/03
5.	10/608,814	06/27/03
6.	10/612,615	07/01/03
7.	10/637,407	08/07/03
8.	10/764,805	01/26/04
9.	10/818,324	04/05/04

On February 18, 2005, a *second* Supplemental Information Disclosure Statement (IDS) was filed, along with a form PTO-1449, that had one (1) reference listed thereon and the appropriate certification. The disclosure statement for the second IDS was also titled "SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT." The 1 reference was:

1. PTO-1449      AA      US 6,111,851      08/29/00      Ohki et al.

In the current Office Action, the Examiner has acknowledged and signed off on the single reference cited with the original application on July 3, 2003 (JP 2001-243655), and the single reference cited with the *second* Supplemental IDS on February 18, 2005 (US 6,111,851). The applicant acknowledges that there may have been confusion caused by the manner in which the *first* Supplement IDS filed on January 21, 2005, was titled.

It is kindly requested that the Examiner enter and consider the 64 references and 9 copending applications from the *first* Supplemental IDS filed on January 21, 2005, and listed above, and return an initialed copy of the corresponding form PTO-1449 along with the next communication to confirm consideration of the cited references.

A third Supplemental IDS, form PTO-1449 having new references listed thereon, copies of the non-patent references, and the appropriate fee are also being submitted with this amendment. The Examiner is kindly requested to enter and consider this third Supplemental IDS, and to confirm consideration thereof by also returning an initialed copy of the form PTO-1449 along with the next communication.

#### VI. Conclusion

Overall, the claims submitted in the present application are allowable. The priority document filed with this amendment establishes that claims 1-27 in the present application have an earlier priority date than any of the cited references. Further, none of the cited references singly or in any motivated combination discloses, teach, or suggest what is recited in the claims. Finally, the applicant has filed a terminal disclaimer with this amendment overcoming the Examiner's double patenting doctrine rejections. All claims and remarks are submitted with the good faith of the undersigned attorney.

Application No. 10/613,525  
Reply to Office Action dated March 7, 2006

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Because all of the claims remaining in the application are now clearly allowable, favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

SEED Intellectual Property Law Group PLLC

A handwritten signature in black ink, appearing to read 'Hai Han', is written over a horizontal line.

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HXH:lcs

Enclosures:

Terminal Disclaimer to Obviate a Double Patenting Rejection Over a "Prior" Patent  
Terminal Disclaimer to Obviate a Provisional Double Patenting Rejection Over a  
Pending "Reference" Application

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